REMARKS:

Claims 17, 21-28, 32, 33 and 54 are pending in the instant application. Claims 17, 21-28, 32, 33, and 54 stand rejected. Claims 17 is amended. Support for amended claim 17 can be found at page 115, line 30 through page 116, line 9 of the specification. Applicants respectfully request reconsideration and withdrawal of the rejections based on the amendments herein. Thus, no new matter is added.

35 U.S.C. § 112

Claims 17, 21-28, 32, 33 and 54 stand rejected under 35 U.S.C. 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner states that claim 17 is vague and indefinite because the term "polypeptides unrelated to SEQ ID NO:4" is unclear and does not establish metes and bounds of the claim.

The Applicants amend claim 17 herein to recite "wherein said monoclonal antibody has a binding constant for SEQ ID NO:4 that exceeds 10^3L/mol" and to remove the phrase "and does not react detectably with polypeptides unrelated to SEQ ID NO: 4." The Applicants respectfully submit that, as cited in the previous response, page 26, line 24 through page 27, line 5 as well as page 115, line 30 through page 116, line 9 of the specification described specific binding to include "In this context two compounds are said to 'bind' when the binding constant for complex formation exceeds about 10^3 L/mol."

The Applicants respectfully submit that, in view of the forgoing remarks and the claims as amended, the Applicants have overcome the rejection of all other claims under 35 U.S.C. § 112, second paragraph. The Applicants respectfully submit that the amended recitation of claim 17 is fully support by the specification and this claim is now in condition for allowance. The Applicants also submit that because claims 21-28, 32, 33, and 54 depend from claim 17 these claims are now in conditions for allowance.

35 U.S.C. § 102(b)

Claims 17, 21-23, 32, 33 and 54 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Schneider, *et al.* (WO 01/24811). The Examiner alleges that Schneider, *et al.* disclose a method for treating a mammalian subject with a cancerous disorder, wherein

said cancers express APRIL Receptor or APRIL comprising the administration of anti-APRIL Receptor antibodies (page 4, lines 17-21 and page 16, lines 24-32), and Schneider *et al.* disclose examples of such cancers as including CLL (page 16, line 33-34 and page 18 line 12).

A prior art reference is anticipatory only if each and every limitation in the claim is found, either expressly or inherently, in that single reference. *Verdegaal Bros., Inc. v Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir.), *cert. denied*, 484 U.S. 827 (1987). The Applicants respectfully submit that the Examiner has pieced together some of the elements of present claims from various sections of Schneider, *et al.* However, Schneider, *et al.* does not disclose an antibody that binds to BCMA with a binding constant for SEQ ID NO:4 that exceeds 10^3L/mol for the treatment of CLL. Thus, Schneider, *et al.* does not disclose each and every element of the claimed invention.

The Applicants respectfully submit that, in view of the forgoing remarks and the claims as amended, the Applicants have overcome the rejection of all other claims under 35 U.S.C. § 102(b). Accordingly, the Applicants respectfully request withdrawal of these rejections.

35 U.S.C. § 103

Claims 17, 21-23, 26, 27, 33 and 54 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider, *et al.* (WO 01/24811) in view of Hanna, *et al.* (U.S. 2002/0028178). Specifically, with respect to claims 26-28 the Examiner alleges that Hanna, *et al.* discloses treatment of B cell malignancies with antibodies conjugated to a therapeutic agent or radiolabelled antibodies. However, the Examiner concedes that neither reference teaches the radionuclides ^{90}Y, ^{123}I, ^{125}I, ^{131}I, ^{186}Re, ^{211}At or ^{212}Bi. The Examiner also maintains her rejection that claims 17, 21-23, 26, 27, 33 and 54 as allegedly unpatentable over Schneider, *et al.* in view of Hansen, *et al.* (US 6,962,702) because Hansen, *et al.* teach these radionuclides, specifically.

Further Claims 17, 21-25, 33 and 54 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Schneider et al in view of Shadidi, *et al.* (BBRC, 2001, Vol. 280 pp548-552). In particular, the Examiner points to claim 24 which embodies the method of claim 17 wherein said antibody is a scFv. The Examiner concedes that Schneider, *et al.* do not specifically teach Fv antibodies but disclose Fab' and F(ab')$_2$ fragments. The Examiner

alleges that Shadidi, *et al.* teach that human antibodies selected from phage libraries may well have a high therapeutic value relative to mouse or humanized antibodies and that human scFv antibodies can be used to deliver drugs or toxins. The Examiner concludes that it would have been *prima facie* obvious to prepare scFv antibodies from human single chain phage antibodies libraries.

To establish a *prima facie* case of obviousness, the Examiner must show that the cited references teach or suggest all the features recited in the claim. Assuming *arguendo,* that even if the combination of references teaches each feature, the Examiner must provide some articulated reasoning with some rational underpinning regarding why a person having ordinary skill in the art would combine the cited references to obtain the subject matter claimed by the Applicant. *See KSR v. Teleflex, Inc.,* 127 S.Ct. 1727, 1731 (2007). The Examiner must also show that in view of the cited art at the time of Applicants' invention, a person having ordinary skill in the art would have had a reasonable expectation of successfully arriving at the claimed subject matter. *See id.* at 1740; *see also* M.P.E.P. § 2143.02 (*citing In re Merck & Co., Inc.*, 800 F.2d 1091 (Fed. Cir. 1986)).

The Applicants respectfully submit that none of the cited art teaches or suggests a monoclonal antibody or fragment thereof that has a binding constant for SEQ ID NO:4 that exceeds 10^3L/mol. As noted in the previous section, Schneider, *et al.* do not teach antibodies that bind to BCMA with any specificity. The Examiner cannot rely on Hanna, *et al.,* Hansen, *et al.* and Shadidi, *et al.* to make up for the lack of this specific teaching. Therefore, taken in combination the cited references do not teach each feature of the currently amended claims.

Furthermore, the Applicants respectfully submit that Schneider, *et al.* is directed to blocking APRIL and APRIL-R (otherwise reported as BCMA) interactions. Therefore, the any antibodies described in Schneider, *et al.* are not described as delivering a toxin, radionuclide or therapeutic to a cancer cell nor treating cancer by binding to BCMA on a cancer cell and causing cell death. The crux of the disclosure in Schneider, *et al.* with regards to antibodies is for blocking APRIL from binding APRIL-R and causing cell proliferation. Thus, although Hanna, *et al.* may teach treating Bcell malignancies with radiolabelled antibodies there is no motivation for the skilled artisan to combine Schneider, *et al.* with Hansen, *et al.* because Schneider, *et al.* teaches that successful treatment would require blocking the interaction of APRIL and APRIL-R and not causing cell death with an antibody that binds BCMA. Similarly, neither Hansen, *et al.* nor Shadidi, *et al.* teach treatment of a Bcell malignancy by specifically targeting BCMA and causing cell death.

The Applicants respectfully submit that, in view of the forgoing remarks and the claims as amended, the Applicants have overcome the rejection of all other claims under 35 U.S.C. § 103. Accordingly, the Applicants respectfully request withdrawal of these rejections.

The Applicant reserves the right to prosecute, in one or more patent applications, the claims to non-elected inventions, the cancelled claims, the claims as originally filed, and any other claims supported by the specification. The Applicant thanks the Examiner for the Office Action and believes this response to be a full and complete response to such Office Action. Accordingly, favorable reconsideration and allowance of the pending claims is earnestly solicited. If it would expedite the prosecution of this application, the Examiner is invited to confer with the Applicant's undersigned attorney.

Respectfully submitted,

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